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|  | COURSE EVALUATIONPROFILE & OUTLINE **DEPARTMENT: SCIENCE**  **PHONE: 416-396-2414 EXT. 20080** | | **2015/2016 Semester 1**  **GRADE 11 UNIVERSITY BIOLOGY**  **SBI 3U1**  **Ms. Pay** | | |
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| **Course Description/Rationale/Overview**:  This course furthers students’ understanding of the processes that occur in biological systems. Students will study theory and conduct investigations in the areas of biodiversity; evolution; genetic processes; the structure and function of animals; and the anatomy, growth, and function of plants. The course focuses on the theoretical aspects of the topics under study, and helps students refine skills related to scientific investigation.  **Prerequisite**:  It is highly recommended for success in SBI3U that you have achieved over 70% in SNC2D1. | | | | | |
| Achievement Categories  Knowledge/Understanding  Thinking/Inquiry  Communication  Applications/Making Connections | | Description Course Work - knowledge of facts & terms  - understanding concepts, principles, and theories  - understanding of relationships between concepts  - critical thinking skills (conducting analysis, detecting bias)  - creative thinking (problem solving)  - inquiry skills (formulating questions; conducting research;  analysing, interpreting, and evaluating information; drawing  conclusions)  - communication of information and ideas  - use of symbols and visuals (use of technology - multi media)  - oral communication (debates, role-playing)  - written communication (reviews, short essays)  - application of concepts, skills, and procedures  - transfer of concepts, skills, and procedures to new concepts  - making logical conclusions or generalizations  - making predictions and planning courses of action  - making connections | | **(70%)**  **24.5%**  **17.5%**  **14%**  **14%** | |
| Summative Evaluation (30%) Summative Assignment 5%  Final Examination 25% | | | | | |
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| **ATTENDANCE**  **If you are going to be away on a day of a test/quiz/presentation/assignment collection, you MUST have your guardian call and leave a message in my office OR give me a doctor’s note. Otherwise, you will receive 0 for the assignment.**  **PLEASE let me know in advance if you know that you are going to be away.** | | | | | |
| **Units of Study:**  **Biochemistry and the Cell (3 weeks)**   * demonstrate an understanding of cell structure & function and the processes of metabolism and membrane transport; * investigate the fundamental molecular principles and mechanisms that govern energy transforming activities in all living matter, whether it be animal, plant, or microbial; * demonstrate understanding of the relationship between cell functions & their technological & environmental applications.   **Diversity of Living Things *and* Plants: Anatomy, Growth (4 weeks)**   * analyse the effects of various human activities on the diversity of living things; * investigate, through laboratory and/or field activities or through simulations, the principles of scientific classification, using appropriate sampling and classification techniques; * demonstrate an understanding of the diversity of living organisms in terms of the principles of taxonomy & phylogeny.   **Genetic Processes (4 weeks)**   * evaluate the importance of some recent contributions to our knowledge of genetic processes, and analyse social and ethical implications of genetic and genomic research; * investigate genetic processes, including those that occur during meiosis, and analyse data to solve basic genetics problems involving monohybrid and dihybrid crosses; * demonstrate understanding of concepts, processes, & technologies related to the transmission of hereditary characteristics.   **Evolution (2 weeks)**   * analyse the economic and environmental advantages and disadvantages of an artificial selection technology, and evaluate the impact of environmental changes on natural selection and endangered species; * investigate evolutionary processes, and analyse scientific evidence that supports the theory of evolution; * demonstrate understanding of the theory of evolution, the evidence and some of the mechanisms by which it occurs.   **Function and Animals: Structure and Function (2 weeks)**   * analyse relationships between changing societal needs, technological advances, & our understanding of human internal systems; * investigate, through laboratory inquiry or computer simulation, the functional responses of the respiratory and circulatory systems of animals, and the relationships between their respiratory, circulatory, and digestive systems; * demonstrate an understanding of animal anatomy and physiology, and describe disorders of the respiratory, circulatory, and digestive systems. * evaluate the importance of sustainable use of plants to Canadian society and other cultures; * investigate the structures and functions of plant tissues, and factors affecting plant growth; demonstrate an understanding of the diversity of vascular plants, including their structures, internal transport systems, and their role in maintaining biodiversity.   **Learning Skills**   |  |  | | --- | --- | | Responsibility | fulfills commitments in learning environments; completes and submits class work, homework, and assignments according to agreed upon timelines; and manages his/her behaviour. | | Organization | creates and follows a plan to complete work and tasks; establishes priorities and manages time to achieve goals; and gathers, evaluates and uses information, technology and resources to complete tasks. | | Independent Work | monitors, assesses, and revises plans to complete tasks and meet goals; uses class time appropriately to complete tasks; and follows instructions with minimal supervision. | | Collaboration | accepts various roles and an equitable share of the work within a group; responds positively to the ideas, opinions, values, and traditions of others; builds healthy peer relationships; works with others to resolves conflicts and builds consensus to achieve group goals; and shares information, resources, and expertise to solve problems and make decisions. | | Initiative | acts upon new ideas and opportunities for learning; demonstrates a willingness to take risks; demonstrates curiosity and interest in learning; approaches new tasks with a positive attitude; and recognizes and advocates appropriately for the rights of self and others. | | Self-Regulation | sets his/her individual goals and monitors progress towards achieving them; seeks assistance when needed; assesses and reflects critically on her/his strengths, needs and interests; identifies learning opportunities, choices, and strategies to meet personal needs and achieve goals; and perseveres when facing challenges. | | | | | | |
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